

What is biodiversity and what do we think about it?

The term ‘biodiversity’ is in danger of becoming a buzz word and its meaning in relation to cotton farms varies from grower to grower, according to a new industry study.

Attitudes and thoughts around how CRDC can help cotton growers maintain and even build on-farm biodiversity have been heard through a recent research project. The *Perceptions of strategies to strengthen biodiversity management on cotton farms* report is part of the Cotton Landcare Tech Innovations 2021 project (funded by CRDC and the National Landcare Program) to create a legacy of biodiversity action on cotton farms and throughout the cotton value chain.

Understanding the challenges growers face in adopting on-farm biodiversity management will help CRDC assist industry in developing a business strategy to create a legacy of biodiversity management throughout the cotton value chain. Clearly defining what biodiversity really means and providing an economic business case for growers to get on board have been highlighted as important first steps in the subsequent report.

QUT environmental and conservation social scientist Dr Angela Dean and Liz Otto from Cornerstone Sustainability led the study. Working alongside CRDC they heard from 54 growers and consultants through online surveys, group discussions and workshops.

Their investigations centred on four biodiversity practices:

- ◆ Targeted revegetation and regeneration
- ◆ Stock exclusion from rivers, streams, and wetlands
- ◆ Control of environmental weeds, and
- ◆ Control of feral animals

The aim was to uncover the factors that might motivate or constrain growers from taking up or strengthening these practices. Because many growers already have some experience in these practices, the emphasis was on improving outcomes rather than maintaining existing practices.

Overall, the research found that most participants believe that biodiversity loss is a serious issue that the cotton industry needs to address.

Participants saw opportunity for greater leadership on promoting biodiversity to growers,



land managers and consultants to improve uptake or works to improve it. Growers also saw an opportunity to acknowledge and build on what many of them are already achieving.

The cotton industry also has the opportunity to better define what is meant by ‘on-farm biodiversity’, as it was shown to mean different things to different participants, and which areas of the farm it applied to, as they require different management strategies.

Some discussion was raised as to whether biodiversity also includes crops.

CRDC R&D Manager and CottonInfo Natural Resource Management Technical Lead Stacey Vogel said from a broad policy, political and social point of view, biodiversity refers to natural environment/capital/assets. The cotton industry’s most recent (2019) sustainability report defines biodiversity as ‘Along with soil and water, biodiversity – the variety of life forms found in an environment including

Enhancing biodiversity on cotton farms is a focus for industry and growers.

animals, plants, bacteria, fungi and micro-organisms – makes up the natural capital that cotton farms rely on to exist’.

“While our sustainability reporting and CRDC R&D programs separate biodiversity into soils, water and natural areas (due to the complexity of management and reporting) CRDC considers and invests in biodiversity as a component of a whole farming system,” Stacey said.

An overarching issue was maintaining a favourable cost-benefit and finding the capital to undertake work to enhance biodiversity, whether that was tree planting or fencing riverine areas.

This study follows earlier research under the Tech Innovations 2021 project that identified priority areas and practices for biodiversity conservation within broader cotton-growing regions.

“Through partnerships with Country Road and Landcare Australia, we’ve been using that research to engage cotton growers within the Namoi Valley in on-ground biodiversity restoration projects,” Stacey said.

“What we hear is that while many growers supported the concept, the challenges and realities of implementing biodiversity management practices on their farms deterred many from participating.

“It was clear that to develop a compelling legacy of biodiversity action, the industry needed to understand more about these implementation challenges.”

The findings show that growers and consultants

- ◆ **87% indicated that biodiversity management would support integrated pest management.**
- ◆ **83% said it would help support a ‘clean, green’ image for the industry.**
- ◆ **79% believed it would support a community licence to operate.**

see supporting biodiversity on farms as an opportunity to do the right thing and build social licence for the industry. However the meaning of ‘biodiversity’ as it applies to the farm has become somewhat hazy, and participants felt in many cases they lacked the tools to identify, measure and gauge the impact of management practices to improve or enhance biodiversity.

And while natural capital and ecosystem service are key aspects of biodiversity on cotton farms, work needs to continue to define what is meant by these terms and quantifying their value.

“CRDC and industry leaders now need to make sure growers and consultants understand the industry’s definition of biodiversity: where and how it applies to a farm,” Stacey said.

“The benefits of monitoring and improving it need to be clear and accessible, via economic studies, research and peer learning.

“It also showed that to accelerate this we need to communicate a clear definition of biodiversity along with clear and accessible methods or tools to measure goals, gauge success and value natural capital and ecosystem services.”

CRDC intends to do further work in coming months to help the industry develop the business strategy for a legacy of biodiversity management. This new report provides invaluable background for that project.

“The biodiversity strategy will complement and build on other work currently happening, such as the industry’s PLANET. PEOPLE. PADDOCK. Sustainability Framework, our work with NRM Regions Australia, the Country Road Landcare partnership and *myBMP*,” Stacey said.

“We’d also encourage land managers to take part in our environmental studies, which can provide them with valuable information about their farm’s health.

“And we will be looking for grower’s feedback on the industry’s environmental performance through an online survey in coming months as part of cotton’s fourth independent environmental assessment. We invite all growers to participate.”

For more

Stacey Vogel

stacey.vogel@crdc.com.au

www.crdc.com.au/

cotton-landcare-tech-innovations

	Opportunities	Challenges
 Revegetation	<ul style="list-style-type: none"> • High opportunity for change • Accepted benefits for biodiversity • Potential benefits for productivity • Opportunity to link with existing schemes (e.g. carbon markets) 	<ul style="list-style-type: none"> • Need to activate social norms • Need to address longer term financial & production impacts • Need to provide support & skills to ensure intended benefits are achieved
 Stock exclusion	<ul style="list-style-type: none"> • Accepted benefits for biodiversity and water quality • Share positive stories of change - benefits of the practice are clearly observable 	<ul style="list-style-type: none"> • Only available to some growers • Need to address costs associated with fencing, maintenance, and water access
 Weed management	<ul style="list-style-type: none"> • Compatible with farm practices • Accepted benefits for production and biodiversity 	<ul style="list-style-type: none"> • Existing uptake could limit scale of change • Consider area wide management & financial support
 Feral animal control	<ul style="list-style-type: none"> • Compatible with farm practices • Accepted benefits for production and biodiversity • Visible problem generates strong problem agreement 	<ul style="list-style-type: none"> • Existing uptake could limit scale of change • Consider area wide management • Alignment with farm goals may weaken biodiversity focus